

# **APPROPRIATIONS REQUEST FORM OREGON HOUSE DELEGATION FISCAL YEAR 2010**

**DEADLINE FOR SUBMISSION: FEBRUARY 20, 2009**

***PLEASE NOTE: As required by the House Appropriations Committee, all requests will be made public on the requesting Member's website.***

**1. Project Title:** ONAMI Nanoelectronics, Nanometrology and Nanobiotechnology (N3I) Initiative

**2. Organization Name and address:**

University of Oregon  
Eugene, OR

Oregon State University  
Corvallis, OR

Portland State University  
Portland, OR

Oregon Nanosciences and Microtechnologies Inst  
Corvallis, OR

**3. Primary Contact name, phone number, mobile phone number, fax number and email:**

Principle Investigator  
Dr . John Carruthers

ONAMI  
Skip Rung

**4. Project Location Address (if different from Organization):**

Takes place at all of the institutions

**5. Please describe the requesting organization's main activities, and whether it is a public, private non-profit, or private for-profit entity:**

Public University

Research, Development and Deployment activities

ONAMI is the first Oregon Signature Research Center. A cooperative venture among government and world-class nanoscience and microtechnology R&D institutions and industry in the Northwest, ONAMI was created to cultivate research and commercialization to advance the leading economic sector in Oregon, and expand the benefits of technology innovation to traditional and natural resource industries.

ONAMI fosters a deep reach into fundamental science for the next source of innovation and high-wage employment opportunities. By putting nanotechnology to work in microsystems, ONAMI members are taking these advances from the lab through to commercialization.

**6. Briefly describe the activity or project for which funding is requested (please keep to 500 words or less.)**

This project focuses on important applications of nanotechnology in three nanoscale areas: measurement/imaging, electronics, and biomedicine. The respective challenges in these three areas are: providing a "window" into the nanoscale world, evaluating nanoelectronics devices that will extend the

“Moore’s Law” scaling of integrated circuits, and providing tools that will enable discoveries and clinical applications in molecular-based medicine of the future. The integrating theme for these specific applications is that discoveries in one discipline may have a major impact on other disciplines. Examples include nanoscale chemical imaging at electronic device interfaces, nanoelectronic-based biosensors for point-of-care health management, nanoscale imaging of protein molecules in cells such as pluripotent embryonic stem cells, and nanoparticle-based diagnosis and drug delivery systems. There are Oregon companies that are directly interested in this work: FEI, the world’s leading nanometrology company, Intel, the world’s leading semiconductor manufacturer, Invitrogen, the first company to bring quantum dot detection into biomedicine, and Virogenomics, and OHSU-based company for commercializing biomedical technologies. We also have strong research partnerships with PNNL and the Western Institute of Nanoelectronics (UCLA). Projects are supported at all four ONAMI universities with an emphasis on collaborative research among all the universities. N3I is already seeing a 2X leveraging of appropriations funds into NSF and other grants.

**7. Has this project received federal appropriations funding in past fiscal years?**

yes

**7a. If yes, please provide fiscal year, Department, Account, and funding amount of any previous funding.**

Department of Defense

Office of the Navy

RDT&E

Defense Research Sciences

\$4M in 2009, \$2M in 2008, \$2.5M in 2007 and \$2.5M in 2006

**8. Federal agency and account from which funds are requested (Please be specific –e.g. Department of Housing and Urban Development, Economic Development Initiatives account):**

Department of Defense

Office of the Navy

RDT&E

Line 3, Defense Research Sciences

PE # 0601153N

**9. What is the purpose of the project? Why is it a valuable use of taxpayer funds? How will the project support efforts to improve the economy and create jobs in Oregon?**

The purpose of the project is to seed high-risk research projects with DoD clients that will lead to research growth in Oregon (follow-on projects) and commercialized technology (both by industry incumbents and ONAMI-supported startup companies).

ONAMI’s areas of innovation are right in the “sweet spot” (energy systems, green nanotechnology) or in essential support (measurement) science of areas of social and economic importance – already identified in stimulus legislation as priorities.

Research funding has both direct stimulating effect (most funds go to graduate student, technician and researcher salaries) and investment effect (develop IP that is more likely to be commercialized in Oregon since the research was done here).

**10. Have you requested funding for this project from other Members of Congress?**

**If so, who?**

The entire OR Delegation

**11. Funding Details:**

**a. Total project cost (all funding sources and all years):** \$20,000,000 federal/\$7-13 million state and private

**b. Amount being requested for this project in Fiscal Year 2010:** \$5,000,000

**c. What other funding sources (local, regional, state) are contributing to this project or activity? (Please provide specific dollar amount or percentage.)**

ONAMI has received over \$70 million in matching investment funds from state and private sources. And since inception, the researchers associated with ONAMI have won in excess of \$100 million in competitive research grants. For comparison purposes, during 2008, ONAMI received over \$30M of which only about \$7M was in the form of congressionally directed monies

**d. Do you expect to request federal funding in future years for this project?** Unknown, depends upon establishment of new federal programs that would fund this type of research that is essential to the nation's nanotechnology agenda.

**e. Breakdown/budget of the amount you are requesting for this project in FY 2010. (e.g. salary \$40,000; computer \$3,000):**

Funds are for Research and Development (salaries and stipends, equipment and materials)

**f. Please list public or private organizations that have supported/endorsed this project:**

|                |   |
|----------------|---|
| Organization:  | Battelle Memorial Institute/Pacific Northwest National Laboratory |
| Contact:       | Mike Kluse, Senior Vice President                                 |
| Telephone:     | 509-375-6600  |
| Organization:  | Hewlett-Packard   |
| Contact:       | Sam Angelos, VP Technology Development Operation                  |
| Telephone:     | 541-715-2163  |
| Organization:  | FEI Company NanoTech  |
| Contact:       | Annette Kolodzie, Director  |
| Telephone:     | 503-726-7500  |
| Program        | Nanoelectronics   |
| Administrator: | Office of Naval Research  |
| Contact:       | Chagaan Baatar  |
| Telephone:     | 703-427-2691  |

**g. Is this project scalable? (i.e. if partial funding is awarded, will the organization be able to use the funds in FY 2010?):** Yes